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Express Mail No.: EV 003 684 794 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Langermann et al.

Application No.: 10/015,085

Filed: December 10, 2001

For: MUTANT PROTEINS, HIGH POTENCY  
INHIBITORY ANTIBODIES AND FIMCH  
CRYSTAL STRUCTURE

Confirmation No. 9514

Group Art Unit: 1645

Examiner: To Be Assigned

Attorney Docket No.: 10271-037-999

#7 / K.T.  
10/23  
I.D.S.

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §1.56 AND §1.97**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

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In accordance with the duty of disclosure imposed by 37 C.F.R. § 1.56 to inform the Patent Office of all references coming to the attention of Applicants or Attorneys for Applicants which are or may be material to the patentability of any claim of the subject application, Attorneys for Applicants hereby direct the Examiner's attention to the references AA-BS listed on the attached revised form PTO 1449. A copy of each of the identified references is enclosed herewith.

Identification of the listed references is not to be construed an admission of Applicants or Attorneys for Applicants that such references are available as "prior art" against the subject application. Consequently, Applicants respectfully decline to use form PTO-1449, since this form identifies all of the references cited therein as "Prior Art." As an alternative, Applicants submit herewith a "revised form PTO 1449" entitled "List of References Cited by Applicant" instead of "List of Prior Art Cited."

Applicants request that the Examiner review all the references identified on the attached revised PTO Form 1449 and make them of record in the file history of the above-identified application.

Pursuant to 37 C.F.R. § 1.97(b)(3), since this information disclosure statement is believed to be filed before the mailing date of a first Office Action on the merits, no fee is due in connection herewith. However, should the Patent Office determine otherwise, please charge the required fee to Pennie & Edmonds LLP deposit account no. 16-1150; a duplicate of this sheet is enclosed.

Respectfully submitted,

Date June 19, 2002

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Enclosure

by Margaret B. Poindar  
Reg No. 40,922



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#7 / I.D.S. Sheet 1 of 3

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## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.

10277-037-999

APPLICATION NO.

10/015,085

APPLICANT

Langermann et al.

CONFIRMATION NO.

9514

FILING DATE

December 10, 2001

GROUP

1645

## U.S. PATENT DOCUMENTS

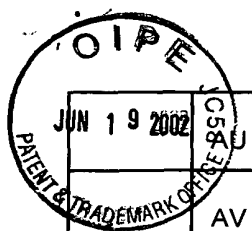
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,882,425	11/21/89	Hull et al.			
	AB	4,971,794	11/20/90	Linggood et al.			
	AC	09/298,494	04/23/99	Langermann et al.			
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	AE	09/615,846	07/13/00	Hultgren et al.			
	AF	09/616,702	07/14/00	Hultgren et al.			
	AG	6,103,243	08/15/00	Russell-Jones et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AH	WO 95/14028	05/26/95	PCT				
	AI	WO 95/20657	08/03/95	PCT				
	AJ	WO 01/04148	01/18/01	PCT				
	AK	WO 01/10386	02/15/01	PCT				

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	AL	Abraham et al., 1985, "Protection against Escherichia coli-induced urinary tract infections with Hybridoma antibodies directed against type I Fimbriae of complementary D-mannose receptors" <i>Infect. and Immunity</i> 48: 625-628
	AM	Chapman et al., 1999, "Structural and functional significance of the FGL sequence of the periplasmic chaperone Caf1M of Yersinia pestis" <i>J. Bacteriol.</i> 181(8):2422-2429
	AN	Choudhury et al., 1999, "X-ray structure of the FimC-FimH chaperone-adhesin complex from uropathogenic Escherichia coli" <i>Science</i> 285(5430):1061-6
	AO	Dodson et al., 1993, "Outer-membrane PapC molecular usher discriminately recognizes periplasmic chaperone-pilus subunit complexes" <i>PNAS</i> 90:3670-3674
	AP	Flemmer et al., 1995, "Peptides inhibit complexation of the bacterial chaperone PapD and reveal potential to block assembly of virulence associated pili" <i>Bioorg. Med. Chem. Lett.</i> 5(9):927-932
	AQ	Hultgren et al., 1989, "The PapG adhesin of uropathogenic Escherichia coli contains separate regions for receptor binding and for the incorporation into the pilus" <i>PNAS</i> 86(12):4357-61
	AR	Hultgren et al., 1990, "Mannose-sensitive haemagglutination in the absence of piliation in Escherichia coli" <i>Mol. Microbiol.</i> 4:1311-8
	AS	Hung et al., 1996, "Molecular basis of two subfamilies of immunoglobulin-like chaperones" <i>EMBO J.</i> 15(15):3792-805
	AT	Jones et al., 1993, "FimC is a periplasmic PapD-like chaperone that directs assembly of type 1 pili in bacteria" <i>PNAS</i> 90(18):8397-401



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AV	Knight et al., 1997, "Crystalization and preliminary x-ray diffraction studies of the FimC-FimH chaperone-adhesin complex from <i>Escherichia coli</i> " <i>Acta Cryst.</i> D53:207
AW	Langermann et al., 1997, "Prevention of mucosal <i>Escherichia coli</i> infection by FimH-adhesin-based systemic vaccination" <i>Science</i> 276(5312):607-11
AX	Langermann et al., 1996, "New approaches to mucosal immunization" <i>Semin Gastrointest Dis.</i> 7(1):12-8
AY	Langermann et al., 2000, "Vaccination with FimH adhesin protects <i>Cynomolgus</i> monkeys from colonization and infection by uropathogenic <i>Escherichia coli</i> " <i>J. Infect. Dis.</i> 181(2):774-778
AZ	Madison et al., 1990, "Structural, Antigenic and Functional Analysis of FimH Protein in <i>Escherichia coli</i> and <i>Klebsiella pneumoniae</i> Type I Fimbriae: A Dissertation Presented to the Graduate Studies Council" The University of Tennessee, Memphis.
BA	Montgomery et al., 1997, "DNA vaccines" <i>Pharmacol. Ther.</i> 74(2):195-205
BB	O'Hanley et al., 1985, "Molecular Basis of <i>Escherichia coli</i> colonization of the upper urinary tract in BALB/c mice" <i>J. Clin. Invest.</i> 75: 347-60
BC	Prince et al., 1985, "Immunoprophylaxis and immunotherapy of respiratory syncytial virus infection in the cotton rat" <i>Virus Res.</i> 3:193-206
BD	Prince et al., 1990, "Mechanism of antibody-mediated viral clearance in immunotherapy of respiratory syncytial virus infection of cotton rats" <i>J. Virol.</i> 64:3091-3092
BE	Roberts et al., 1994, "The Gal ( $\alpha$ 1-4) Gal-specific tip adhesin of <i>Escherichia coli</i> P-fimbriae is needed for pyelonephritis to occur in the normal urinary tract" <i>PNAS</i> 91: 11889-11893
BF	Salit and Gotschlich, 1977, "Type I <i>Escherichia coli</i> pili: characterization of binding to monkey kidney cells" <i>J. Exp. Med.</i> 146(5):1182-1194
BG	Sauer et al., 1999, "Structural basis of chaperone function and pilus biogenesis" <i>Science</i> 285(5430):1058-61
BH	Service et al., 1994, "Triggering the first line of defense" <i>Science</i> 265(5178):1522-4
BI	Sokurenko et al. 1995, "Quantitative differences in adhesiveness of type 1 fimbriated <i>Escherichia coli</i> due to structural differences in FimH genes" <i>J. Bacteriol.</i> 177:3680-86
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BM	Striker et al., 1994, "Stable fiber-forming and nonfiber-forming chaperone-subunit complexes in pilus biogenesis" <i>J. Biol. Chem.</i> 269(16):12233-12239
BN	Tewari et al., 1993, "Neutrophil Activation by Nascent FimH Subunits of Type 1 Fimbriae Purified from the Periplasm of <i>Escherichia coli</i> " <i>J. Biol. Chem.</i> 268: 3009-3015
BO	Thankavel et al., 1997, "Localization of a domain in the FimH adhesin of <i>Escherichia coli</i> type 1 fimbriae capable of receptor recognition and use of a domain-specific antibody to confer protection against experimental urinary tract infection" <i>J. Clinical Investigation</i> 100:1123-1136
BP	Wilson et al., 1984, "The structure of an antigenic determinant in a protein" <i>Cell</i> 37(3):767-78
BQ	Wizemann et al., 1999, "Adhesins as targets for vaccine development" <i>Emerg. Infect. Dis.</i> 5(3):395-403
	Wu and Wu, 1987, "Receptor-mediated in vitro gene transformation by a soluble DNA carrier system" <i>J Biol Chem.</i> 262(10):4429-32



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BS	<u>www.ncbi.nlm.nih.gov.</u> 37500, "E.coli type 1 Fimbriae, genes fimB, fimE, fimA, fimI, fimC" (Marc)
<u>EXAMINER</u>	<u>DATE CONSIDERED</u>
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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